



National Science Foundation

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EIS Public Scoping Meetings

Green Bank Science Center

2016 November 9

3:00—5:00 and 6:00—8:00 pm

Green Bank Observatory Environmental Impact Statement (EIS) Scoping Meeting: *Overview*

- Introduction of team members
- Background information
- Preliminary proposed alternatives and resource areas to be studied
- EIS process
- Public comments



The Role of NSF

- The National Science Foundation (NSF) is the federal steward for ground-based astronomy and astrophysics.
- NSF provides funding for national and international telescopes and facilities and provides funding for research grants that allow individuals and groups to conduct specific science investigations.



Stewardship of NSF's Portfolio

- Over the past decade NSF has received advice from external review committees.
- The 2010 decadal survey, *New Worlds, New Horizons in Astronomy and Astrophysics*, stated: “NSF-Astronomy should complete its next senior review ... so as to determine which, if any, facilities NSF-AST should cease to support in order to release funds for (1) the construction and ongoing operation of new telescopes and instruments and (2) the science analysis needed to capitalize on the results from existing and future facilities.”



Radio facility recommendations

- The 2010 report's recommended review of the NSF Astronomical Sciences portfolio was completed in 2012.
 - 2012 Portfolio Review: *Advancing Astronomy in the Coming Decade: Opportunities and Challenges*
- Regarding the Green Bank Telescope, the 2012 review recommended divestment and stated the following:

“The GBT is the world’s most sensitive single-dish radio telescope at wavelengths shorter than 10 cm; however, its capabilities are not as critical to *NWNH* [astronomy and astrophysics decadal survey] science goals as the higher-ranked facilities.”



Radio facility recommendations

- In August 2016, the *National Academies of Sciences, Engineering, and Medicine* published their *Midterm Assessment* of the 2010 decadal survey and reaffirmed the 2012 Portfolio Review's recommendations for divestment of these AST facilities:
“The NSF should proceed with divestment from ground-based facilities that have a lower scientific impact, implementing the recommendations of the NSF Portfolio Review, which is essential to sustaining the scientific vitality of the U.S. ground-based astronomy program as new facilities come into operation.”



Resulting Developments at GBO

- In FY12, NSF provided 95% of the site's funding.
- On March 22, 2013, in Dear Colleague Letter NSF 13-074, NSF announced that the Green Bank Telescope (GBT) would be separated from the National Radio Astronomy Observatory (NRAO) competition and requested ideas for collaborations involving GBT.
- On October 1, 2016, following the path published in NSF 13-074, NSF separated NRAO Green Bank from NRAO.
- The site was renamed the Green Bank Observatory (GBO), and Associated Universities, Inc. (AUI), continues to manage GBO under a cooperative agreement with NSF.



Current Status of GBO

- FY17 President's Request Budget (PRB) for "Other Astronomical Facilities" asked for \$11.5M total for GBO and the Long Baseline Observatory (LBO).
- FY17 PRB also shows an increase to \$11.85M in FY18, for planning purposes.
- Following a review of AUI's proposal that provides the exact division between GBO and LBO for FY17 and FY18, NSF allocated \$8.2M in FY17 should the PRB be appropriated.
- The \$8.2M level represents approximately 75% of the base budget for GBO that was part of previous appropriations to NRAO.



Current Status of GBO

- GBO has established collaborations with Breakthrough Listen, West Virginia University, and NANOGrav.
- GBO continues seeking new funding sources.



NSF plans moving forward

- Given previous astronomical community recommendations combined with current budget constraints, NSF has a need to reduce funding for a number of its astronomical telescopes and facilities.
- The NSF is initiating the EIS/Section 106 consultation process for the Green Bank Observatory.



EIS Preliminary Proposed Alternatives

- Continued NSF investment for science-focused operations (No-Action Alternative).
- Collaboration with interested parties for science- and education-focused operations with reduced NSF-funded scope.
- Collaboration with interested parties for operation as a technology and education park.
- Mothballing of facilities (suspension of operations in a manner such that operations could resume efficiently at some future date).
- Deconstruction and site restoration.



National Environmental Policy Act

- The National Environmental Policy Act of 1969 (NEPA) requires federal agencies to consider the potential environmental consequences of proposed actions on the environment prior to making final decisions.
- NSF intends to prepare an Environmental Impact Statement (EIS) to evaluate the potential environmental effects of proposed operational changes due to funding constraints for the Green Bank Observatory
 - NSF will prepare a Draft and Final EIS
- On October 19, 2016, NSF announced the beginning of the scoping process for development of an EIS



NEPA Scoping Process

- The purpose of the scoping process is to seek public input regarding relevant issues that will influence the scope of the environmental analysis
- Comments will inform the EIS
 - We invite your input regarding relevant issues, including identification of viable alternatives and resource areas to be analyzed.
 - The more specific your comment, the more helpful to the development of the EIS



EIS Preliminary Resource Areas to Be Analyzed

- Air quality
- Biological resources
- Cultural resources
- Geological resources
- Solid waste generation
- Health and safety
- Socioeconomics
- Traffic
- Groundwater resources



Section 106 of the National Historic Preservation Act

- The Section 106 consultation process requires federal agencies to consult with interested parties and the State Historic Preservation Officer regarding potential effects of their proposed actions on nationally significant historic properties. There are four basic steps:
 1. Initiate Section 106 consultation
 2. Identify Area of Potential Effects (APE) and nationally-significant historic properties within the APE
 3. Assess whether there are adverse effects
 4. Resolve any adverse effects through a Memorandum of Agreement
- Section 106 consultation will occur in coordination with the NEPA process



Endangered Species Act

- NSF must also consider whether the proposal's activities may impact threatened or endangered species and/or their habitat under the Endangered Species Act (ESA).
- If it is determined that such an impact may occur, NSF will consult with the US Fish and Wildlife Service to determine next steps.



Target Dates & Opportunities to Comment



How to submit comments

- Provide verbal comments today
- Submit written comments today
- Mail or email comments to NSF by November 25
 - envcomp-AST-greenbank@nsf.gov
 - Ms. Elizabeth Pentecost, National Science Foundation, Division of Astronomical Sciences, 4201 Wilson Blvd., Suite 1045, Arlington, VA 22230



Where to find Information

- The fact sheet, informational boards, and presentation will be posted at:
 - www.nsf.gov/AST
- Documents and meeting information will continue to be posted throughout the process





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